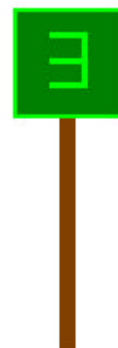
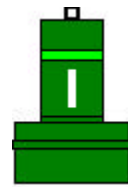


13th Coast Guard District Private Aids to Navigation Information Handout



REPORT DEFECTS IN AIDS TO NAVIGATION TO THE NEAREST COAST GUARD UNIT 24 HOURS A DAY

Table of contents

1. Definition of “temporary and permanent” aids to navigation.
Page 3.
2. Title 33, Code of Federal Regulations, Subchapter C, Part 62 – United States Aids to Navigation System. (An edited copy which explains the aids to navigation system used within the United States.)
Pages 4 through 9.
3. Title 33, Code of Federal Regulations, Subchapter C, Part 66 – Private Aids to Navigation. (An edited copy which explains the private aids to navigation system used within the United States.)
Pages 10 through 17.
4. Instructions for completing a Private Aids to Navigation Application (CG-2554).
Pages 18 through 20.
5. A list of suggested sources of equipment and services for private aids to navigation.
Pages 21 through 31.
6. 13th Coast Guard District, Office Aids to Navigation mailing address, phone numbers, e-mail address, website information.
Page 32.
7. Attached copy of “Private Aids to Navigation Application” (CG-2554).

Definitions:

Temporary aids are those that will be on station six months or less and do not require an application. These aids only require notification to the Coast Guard by letter, fax or email, for publication in the Local Notice to Mariners (LNM).

Permanent aids are those that will be on station for more than six months. These aids do require a completed and approved Private Aids to Navigation application (Form CG-2554), which is included in this handout.

TITLE 33, CODE OF FEDERAL REGULATIONS, SUBCHAPTER C (PARTS 62 AND 66 - EDITED)

- **PART 62 - UNITED STATES AIDS TO NAVIGATION SYSTEM**

- 62.23 Beacons and buoys (page 4)
- 62.25 Lateral marks (page 5)
- 62.31 Special marks (page 6)
- 62.33 Information and regulatory marks (page 6)
- 62.35 Mooring buoys (page 7)
- 62.43 Numbers and letters (page 7)
- 62.45 Lights characteristics (page 8)

(Subpart B - The U.S. Aids to Navigation System.)

62.23 Beacons and buoys

(a) Aids to navigation are placed on shore or marine sites to assist a navigator to determine his position or safe course. They may mark limits of navigable channels, or warn of dangers or obstructions to navigation. The primary components of the U.S. Aids to Navigation system are beacons and buoys.

(b) Beacons are aids to navigation structures, which are permanently fixed to the earth surface. They range from large lighthouses to small, single-pile structures and may be located on land or in the water. Lighted beacons are called lights; unlighted beacons are called daybeacons.

(1) Beacons exhibit a daymark. For small structures these are colored geometric shapes, which makes an aid to navigation readily visible and easily identifiable against background conditions. Generally, the daymark conveys to the mariner, during daylight hours, the same significance, as does the aids light or reflector at night. The daymark of large lighthouses and towers, however, consists of the structure itself. As a result, these daymarks do not infer lateral significance.

(2) Vessels should not pass beacons close aboard due to the danger of collision with riprap or structure foundations, or the obstruction or danger the aid marks.

(c) Buoys are floating aids to navigation used extensively throughout U.S. waters. They are moored to the seabed by sinkers with chain or other moorings of various types.

(1) The daymark of a buoy is the color and shape of the buoy and if so equipped the topmark.

(i) Can buoys have a cylindrical shape and are green in color.

62.23 Beacons and buoys (cont.)

- (ii) Nun buoys have a tapered, conical shape and are red in color.
 - (iii) Pillar buoys have a wide cylindrical base supporting a narrow superstructure. They may be surmounted by color shapes called topmarks.
 - (iv) Spherical buoys have a round shape.
- (2) Mariners attempting to pass a buoy close aboard risk collision with a yawing buoy, the buoy's mooring, or with the obstruction which the buoy marks.
- (3) Mariners should not rely on buoys alone for determining their positions due to factors limiting the reliability. Prudent mariners will use bearings or angles from beacons or other landmarks, soundings, and various methods of electronic navigation. Buoys vary in reliability because:
- (i) Buoy positions represented on nautical charts are approximate positions only, due to practical limitations in positioning and maintaining buoys and their sinkers in precise geographical locations.
 - (ii) Buoy moorings vary in length. The mooring lengths defines a "watch circle", and, buoys can be expected to move within this circle. Actual watch circles do not coincide with dots or circles representing them on charts.
 - (iii) Buoy positions are normally verified during periodic maintenance visits. Between visits, environmental conditions, including atmospheric and sea conditions, and seabed slope and composition, may shift buoys off their charted positions. Also buoys may be dragged off station, sunk, or capsized by a collision with a vessel.

62.25 Lateral marks

- (a) Lateral marks define the port and starboard sides of a route to be followed. They may be either beacons or buoys.
 - (b) Sidemarks are lateral marks, which advise the mariner to stay to one side of the mark. Their most frequent use is to mark the sides of channels; however, they may be used individually to mark obstructions outside of clearly defined channels. Sidemarks are not always placed directly on a channel edge and may be positioned outside the channel as indicated on charts and nautical publications.
- (1) Port hand marks indicate the left side of channels when proceeding in the Conventional Direction of Buoyage. Beacons have green square daymarks, while buoys are green can or pillar buoys.

62.25 Lateral marks (cont.)

(2) Starboard hand marks indicate the right side of channels when proceeding in the Conventional Direction of Buoyage. Beacons have red triangular daymarks, while buoys are red nun or pillar buoys.

(c) Preferred channel marks indicate channel junctions or bifurcations and may also mark wrecks or obstructions, which the mariner, after consulting a chart to ascertain the location of the obstruction relative to the aid, may pass on either side. Preferred channel marks have red and green horizontal bands with the color of the topmost band indicating the preferred channel. If the topmost band is green, the mark serves as a port hand mark for vessels following the preferred channel proceeding in the Conventional Direction of Buoyage, and as a starboard hand mark for the other channel. Beacons would have square daymarks, while buoys would be can or pillar buoys. If the topmost band is red, the mark serves as a starboard hand mark for vessels following the preferred channel proceeding in the Conventional Direction of Buoyage, and a port hand mark for the other channel. Beacons would have a triangular daymark, while buoys would be nun or pillar buoys.

(d) The above color schemes apply to IALA (International Association of Lighthouse Authorities) Region B. Marks located in the IALA Region A exhibit reverse colors significance: port hand marks will be red when following Conventional Direction of Buoyage, and the starboard hand marks will be green. The meaning of daymark and buoy shapes is identical in both regions.

(e) Certain marks on intracoastal waterways may exhibit reversed lateral significance. See 62.49 (not enclosed).

62.31 Special marks

Special marks are not primarily intended to assist safe navigation, but to indicate special areas or features referred to in charts and other nautical publications. They may be used, for example, to mark anchorages, cable or pipeline areas, traffic separation schemes, military exercise zones, ocean data acquisition systems, etc. Special marks are colored solid yellow.

62.33 Information and regulatory marks

(a) Information and Regulatory marks are used to alert the mariner to various warnings or regulatory matters. These marks have orange geometric shapes against a white background. The meaning associated with the orange shapes are as follows:

(1) A vertical open-faced diamond signifies danger.

62.33 Information and regulatory marks (cont.)

(2) A vertical diamond shape having a cross center within indicates that vessels are excluded from the marked area.

(3) A circular shape indicates that certain operating restrictions are in effect within the marked area.

(4) A square or rectangular shape will contain directions or instructions lettered within the shape.

(b) When a buoy is used as an information or regulatory mark it shall be white with two horizontal orange bands placed completely around the buoy circumference. One band shall be near the top of the buoy body, with a second band placed just above the waterline of the buoy so that both bands are clearly visible.

62.35 Mooring buoys

Mooring Buoys are white with a blue horizontal band. This distinctive color scheme is recommended to facilitate identification and to avoid confusion with aids to navigation.

62.43 Numbers and letters

(a) All solid red and solid green aids are numbered, with red aids bearing even numbers and green aids with odd numbers. The numbers increase in the Conventional Direction of Buoyage. Numbers are kept in approximately sequence on both sides of the channel by omitting numbers when necessary.

(b) Only Sidemarks are numbered. However, aids other than those mentioned above may be lettered to assist in their identification, or to indicate their purpose. Sidemarks may carry letters in addition to numbers to identify the first aid to navigation in a waterway, or when new aids to navigation are added to channels with previously completed numerical sequences. Letters on Sidemarks with follow alphabetical order from seaward and proceeding toward the Conventional Direction of Buoyage and will be added to numbers and suffixes.

(c) Aids to navigation may be fitted with light-reflecting material to increase their visibility in darkness. The colors of this material may convey the same significance as the aid except that letters and numbers may be white.

(d) Exceptions to the provisions of this section will be found on the Western Rivers System. See Sec. 62.51.

62.43 Numbers and letters (cont.)

(e) The guidelines for the display of numbers and letters on aids to navigation are identical for both Region A and Region B; red aids to navigation display even numbers, and green aids display odd numbers.

62.45 Light characteristics

(a) Lights on aids to navigation are differentiated by color and rhythm.. Lighthouses and range lights may display distinctive light- characteristics to facilitate recognition. No special significance should be attached to the color or rhythm of such lights. Other lighted aids to navigation employ light characteristics to convey additional information.

(b) When proceeding in the Conventional Direction of Buoyage, aids to navigation if lighted, display light characteristics as follows:

(1) Green lights mark port (left) sides of channels and locations of wrecks or obstructions, which are to be passed by keeping these lights on the port (left) hand of the vessel. Green lights are also used on Preferred Channel Marks where the topmost band is green.

(2) Red lights mark starboard (right) sides of channels and locations of wrecks or obstructions, which are to be passed by keeping these lights on the starboard (right) of a vessel. Red lights are also used on Preferred Channel Marks where the topmost band is red.

(3) Certain lights marking the Intracoastal Waterway may display reversed lateral significance. See 62.49.

(c) Yellow lights have no lateral significance. Except on Western Rivers, see 62.51, white lights have no lateral significance. The purpose of aids exhibiting white or yellow lights may be determined by their shape, color, letters or numbers, and the light rhythm employed.

(d) Light rhythms, except as noted in 62.51 for Western Rivers, are employed as follows:

(1) Aids with lateral significance display regularly flashing or regularly occulting light rhythms. Ordinarily, flashing lights (frequency not exceeding 30 flashes per minute) will be used.

(2) Preferred Channel Marks display a composite group flashing light rhythm (group of two flashes followed by one flash).

62.45 Light characteristics (cont.)

(3) Safe Water Marks display a white Morse Code "A" rhythm (short-long flash).

(4) Isolated Danger Marks display a group flashing two.

(5) Special Marks display yellow (amber) lights with fixed or slow flashing rhythms preferred.

(6) Mooring buoys and Informational and Regulatory Marks display white lights of various rhythms.

(7) For situations where lights require a distinct cautionary significance, as at sharp turns, sudden channel constrictions, wrecks, or obstructions, a quick flashing light rhythm (60 flashes per minute) may be used.

(e) Occasionally lights use sectors to mark shoals or warn mariners of other dangers. Lights equipped show one color from most directions and a different color or colors over a definite arc of the horizon as indicated on the appropriate nautical chart. These sectors provide approximate bearing information since the observer should note a change of color as the boundary between the sectors is crossed. As sector bearings are not precise, they should be considered a warning only and not used to determine exact bearing to the light.

(f) Aids to navigation may be fitted with light-reflecting material to increase their visibility in darkness. Green or red reflective material is used only on marks, which if lighted, would exhibit a light of that color. Yellow reflective material is used on special marks and on Intracoastal Waterway Marks. No significance is attached to white reflective material.

For complete copy of "Title 33 CFR 62" go to

<http://www.gpoaccess.gov/cfr/index.html>

- **PART 66 - PRIVATE AIDS TO NAVIGATION**

- 66.01-1 Basic provisions (page 10)
- 66.01-3 Delegation of authority to District Commander (page 11)
- 66.01-5 Application procedure (page 11)
- 66.01-10 Characteristics (page 12)
- 66.01-11 Lights (page 12)
- 66.01-12 May I continue to use my current equipment? (page 14)
- 66.01-13 When must my new equipment comply? (page 14)
- 66.01-15 Action by Coast Guard (page 14)
- 66.01-20 Inspections (page 15)
- 66.01-25 Discontinuance and removal (page 15)
- 66.01-30 Army Corp of Engineers Approval (page 15)
- 66.01-40 Exemptions (page 16)
- 66.01-45 Penalties (page 16)
- 66.01-50 Protection of private aids to navigation (page 16)
- 66.01-55 Transfer of ownership (page 16)

(Subpart 66.01 – Aids to Navigation Other Than Federal or State.)

66.01-1 Basic provisions

- (a) No person, public body or other instrumentality not under the control of the Commandant, exclusive of the Armed Forces, shall establish and maintain, discontinue, or change or transfer ownership of any aid to maritime navigation, without first obtaining permission to do-so from the Commandant.
- (b) For the purpose of this subpart, the term private aids to navigation includes all marine aids to navigation operated in the navigable waters of the United States other than those operated by the Federal Government (Part 62 of this subchapter) or those operated in State waters for private aids to navigation (Subpart 66.05).
- (c) Coast Guard authorization of a private aid to navigation does not authorize any invasion of private rights, nor grant any exclusive privileges, nor does it obviate any necessity of complying with any other Federal, State or local laws or regulations.
- (d) With the exception of radar beacons (racons) shore based radar stations, operation of electronic aids to navigation as private aids will not be authorized.

66.01-3 Delegation of authority to District Commander

- (a) Pursuant to the authority in 49 CFR 1.4(g), the Commandant delegates to the District Commander within the confines of their respective districts (see part 3 of this chapter for descriptions) the authority to grant permission to establish and maintain, discontinue, change or transfer ownership of private aids to maritime navigation, and otherwise administer the requirements of this subpart.
- (b) The decision of the District Commander may be appealed within 30 days of the date of the decision. The decision of the Commandant in any case is final.

66.01-5 Application procedures

To establish and maintain, discontinue, change, or transfer ownership of a private aid to navigation, you must apply to the Commander of the Coast Guard District in which the aid is or will be located. You can find application form CG-2554 at <http://www.uscgboating.org/safety/aton/aids.htm> or you can request a paper copy by calling the Boating Safety Information line at (800) 368-5674. You must complete all parts of the form applicable to the aid concerned, and must forward the application to the District Commander. You must include the following information:

- (a) The proposed position of the aid to navigation by two or more horizontal angles, bearings and distance from charted landmarks, or the latitude and longitude as determined by GPS or differential GPS. Attach a section of chart or sketch showing the proposed position.
- (b) The name and address of the person at whose expense the aid will be maintained.
- (c) The name and address of the person who will maintain the aid to navigation.
- (d) The time and date during which it is proposed to operate the aid.
- (e) The necessity for the aid.
- (f) For lights: The color, characteristic, range, effective intensity, height above water, and description of illuminating apparatus. Attach a copy of the manufacturer's data sheet to the application.
- (g) For fog signals: Type (whistle, horn, bell) and characteristics.
- (h) For buoys or daybeacons: Shape, color, number or letter, depth of water at location of the buoy or height above water for the daybeacon.

66.01-10 Characteristics

- (a) The characteristics of a private aid to navigation must conform to those prescribed by the United States Aids to Navigation System set forth in subpart B of part 62 of this subchapter.
- (b) For RACONs: Manufacturer and model number or RACON, height above the water of desired installation, and requested coding characteristics. Equipment must have FCC authorization.
- (c) Owners of previously authorized, but non-conforming private aids to navigation must bring such aids to navigation into conformance with the U.S. Aids to Navigation System not later than December 31, 1994.

66.01-11 Lights.

- (a) Except for range and sector lights, each light approved as a private aid to navigation must:
 - (1) Have at least the effective intensity required by this subpart omnidirectionally in the horizontal plane, except at the seams of its lens mold.
 - (2) Have at least 50% of the effective intensity required by this subpart within \pm or -2 degrees of the horizontal plane.
 - (3) Have a minimum effective intensity of at least 1 candela for a range of 1 nautical mile, 3 candelas for one of 2 nautical miles, 10 candelas for one of 3 nautical miles, and 54 candelas for one of 5 nautical miles. The District Commander may change the requirements for minimum intensity to account for local environmental conditions. For a flashing light this intensity is determined by the following formula:

$$I_e = G / (0.2 + t_2 \mp t_1)$$

Where:

I_e = Effective intensity

G = The integral of the instantaneous intensity of the flashed light with respect to time

t_1 = Time in seconds at the beginning of the flash

t_2 = Time in seconds at the end of the flash

$t_2 \mp t_1$ is greater than or equal to 0.2 seconds.

- (4) Unless the light is a pre-focused lantern, have a means of verifying that the source of the light is at the focal point of the lens.

66.01–11 Lights. (cont.)

(5) Emit a color within the angle of 50% effective intensity with color coordinates lying within the boundaries defined by the corner coordinates in Table 66.01–11(5) of this part when plotted on the Standard Observer Diagram of the International Commission on Illumination (CIE).

TABLE 66.01–11(5)—COORDINATES OF CHROMATICITY

Color	Coordinates of chromaticity	
	x axis	y axis
White	0.500	0.382
	0.440	0.382
	0.285	0.264
	0.285	0.332
	0.453	0.440
Green	0.500	0.440
	0.305	0.689
	0.321	0.494
	0.228	0.351
	0.028	0.385
Red	0.735	0.265
	0.721	0.259
	0.645	0.335
	0.665	0.335
	0.618	0.382
Yellow	0.612	0.382
	0.555	0.435
	0.560	0.440

(1) Have a recommended interval for replacement of the source of light that ensures that the lantern meets the minimal required intensity stated in paragraph (a)(3) of this section in case of degradation of either the source of light or the lens.

(2) Have autonomy of at least 10 days if the light has a self-contained power system. Power production for the prospective position should exceed the load during the worst average month of insolation. The literature concerning the light must clearly state the operating limits and service intervals. Low-voltage disconnects used to protect the battery must operate so as to prevent sporadic operation at night.

(3) The manufacturer of each light approved as a private aid to navigation must certify compliance by means of an indelible plate or label affixed to the aid that meets the requirements of § 66.01–14.

66.01–12 May I continue to use the private aid to navigation I am currently using?

If, after March 8, 2004, you modify, replace, or install any light that requires a new application as described in § 66.01–5, you must comply with the rules in this part.

66.01–13 When must my newly manufactured equipment comply with these rules?

After March 8, 2004, equipment manufactured for use as a private aid to navigation must comply with the rules in this part.

66.01–14 Label affixed by manufacturer.

(a) Each light, intended or used as a private aid to navigation authorized by this part, must bear a legible, indelible label (or labels) affixed by the manufacturer and containing the following information:

- (1) Name of the manufacturer.
- (2) Model number.
- (3) Serial number.
- (4) Words to this effect: “This equipment complies with requirements of the U.S. Coast Guard in 33 CFR part 66.”

(b) This label must last the service life of the equipment.

(c) The manufacturer must provide the purchaser a data sheet containing the following information:

- (1) Recommended service life based on the degradation of either the source of light or the lamp.
- (2) Range in nautical miles.
- (3) Effective intensity in candela.
- (4) Size of lamp (incandescent only).
- (5) Interval, in days or years, for replacement of dry-cell or rechargeable battery.

66.01-15 Action by Coast Guard

(a) The District Commander receiving the application will review it for completeness and assign the one of the following classifications:

Class I: Aids to navigation on marine structures or other works, which the owners are legally, obligated to establish, maintain and operate as prescribed by the Coast Guard.

66.01-15 Action by Coast Guard (cont.)

Class II: Aids to navigation exclusive of Class I located in waters used by general navigation.

Class III: Aids to navigation exclusive of Class I located in waters not ordinarily used by general navigation.

(b) Upon approval by the District Commander, a signed copy of the application will be returned to the applicant. Approval for the operation of radar beacons (racons) will be effective for an initial two-year period, then subject to annual review without further submissions required of owner.

66.01-20 Inspections

All classes of private aids to navigation shall be maintained in proper operating condition. They are subject to inspection by the Coast Guard at any time and without prior notice.

66.01-25 Discontinuance and removal

(a) No person, public body or instrumentality shall change, move or discontinue any authorized private aid to navigation required by statute or regulation (Class I, 66.01-15) without first obtaining permission to do so from the District Commander.

(b) Any authorized private aid to navigation not required by statute or regulation (Classes II and III, 66.01-15) may be discontinued and removed after 30 days notice to the District Commander to whom the original request for authorization for establishment of the aid was submitted.

(c) Private aids to navigation, which have been authorized pursuant to this part, shall be discontinued and removed without expense to the United States by the person, public body or instrumentality establishing or maintaining such aids when so directed by the District Commander.

66.01-30 Army Corps of Engineers Approval

(a) Before any private aid to navigation consisting of a fixed structure is placed in navigable waters of the United States, authorization to erect such a structure shall first be obtained from the District Engineer, U.S. Army Corps of Engineers in whose district the aid will be located.

66.01-30 Army Corps of Engineers Approval (cont.)

(b) The application to establish any private aid to navigation consisting of a fixed structure shall show evidence of the required permit having been issued by the Corps of Engineers.

66.01-40 Exemptions

(a) Nothing in the preceding section of this subpart shall construed to interfere with or nullify the requirements of existing laws regulations pertaining to the marking of structures, vessels and other obstructions sunken within waters subject to the jurisdiction of the United States (Part 64 of this subchapter), and the marking of artificial islands and structures which are erected on or over the seabed and subsoil of the Outer Continental Shelf (Part 67 of this subchapter), or the lighting of bridges over navigable waters of United States (subchapter J of this subchapter).

(b) Persons marking bridges pursuant to Subchapter J of this title are exempt from the provisions of 66.01-5.

66.01-45 Penalties

Any person, public body or instrumentality, excluding the Armed Forces, who shall establish, erect or maintain any aid to maritime navigation without first obtaining authority to do so from the Coast Guard, with the exception of those established in accordance with 64.10 of this chapter, or who shall violate the regulations relative thereto issued in this part, is subject to the provisions of 14 U.S.C. 83.

66.01-50 Protection of private aids to navigation

Private aids to navigation lawfully maintained under these regulations are entitled to the same protection against interference or obstruction as is afforded by law to Coast Guard aids to navigation (Part 70 of this subchapter). If interference occurs, a prompt report containing all the evidence available should be made to the Commander of the Coast Guard District in which the aid(s) are located.

66.01-55 Transfer of ownership

(a) When any private aid to navigation authorized by the District Commander, or the essential real estate or facility with which the aid is associated, is sold or transferred, both parties to the transaction shall submit application (66.01-5) to the Commander of the Coast Guard District in which the aid is located requesting authorization to transfer responsibility for maintenance of the aid.

66.01-55 Transfer of ownership (cont.)

- (b) The party relinquishing responsibility for maintenance of the private aid to navigation shall indicate on the application form (CG-2554) both the discontinuance and the change of ownership of the aid sold or transferred.
- (c) The party accepting the responsibility for maintenance of the private aid to navigation shall indicate on the application form (CG-2554) both the establishment and the change of ownership of the aid sold or transferred.
- (d) In the event the new owner of the essential real estate or facility with which the aid is associated refuses to accept responsibility for maintenance of the aid, the former owner shall be required to remove the aid without expense to the United States. This requirement shall not apply in the case of any authorized private aid to navigation required, by statute or regulation (Class I, 66.01-15), which shall be maintained by the new owner until the conditions which made the aid necessary have been eliminated.

For complete copy of “Title 33 CFR 66” go to

<http://www.gpoaccess.gov/cfr/index.html>

PRIVATE AIDS TO NAVIGATION APPLICATION (CG-2554) INSTRUCTIONS

(1) The rules, regulations and procedures pertaining to Private Aids to Navigation (PATON) are set forth in Title 33, Code of Federal Regulations, Chapter 1, Parts 62 and 66.

(2) A minimum of 30 days in advance of the proposed action, one copy of the application for Private aids shall be forwarded with original signature to:

Commander (oan)
13th Coast Guard District
915 Second Avenue, Room 3510
Seattle, WA 98174-1067
Attn.: PATON Manager

(3) When making application for fixed structures, within navigable waters, evidence must accompany your application showing authorization obtained from the Corps of Engineers, Department of the Army (Code of Federal Regulations; Title 33, Part 66.01-30).

(4) The applicant shall complete all of blocks 1, 2, 3, 4, 5, 9 and 10 for all new applications. When an aid is being discontinued, block 3 need not be completed. Block 6 shall be completed whenever authorization is required from the Corps of Engineers (Instruction No. 3) Columns of Block 7 will be completed as follows:

- a. Unlighted buoys- 7a, 7e, 7f, and 7j.
- b. Lighted buoys- 7a, 7b, 7c, 7d, 7e, 7f, 7h, and 7j.
- c. Daybeacons - 7a, 7e, 7f (if applicable), 7h, 7i, and 7j.
- d. Light on a structure- 7a, 7b, 7c, 7d, 7e, 7f (if applicable), 7h, 7i, and 7j.

When an aid is being changed, Block 8 shall be used to describe the nature of the change.

(5) The required information for each column includes the following:

(7a) Proposed number or letter to be assigned to the aid. Only aids with lateral significance will display numbers, with red aids bearing even numbers and green aids bearing odd numbers.

(7b) Period of light (time in seconds for one complete cycle)

(7c) Flash length in seconds. Complex or multiple flashes, explain in column 7j.

(7d) Color of light.

(7e) Position indicated by Latitude and Longitude as precisely as chart permits or bearing and distance from a prominent charted landmark.

(7f) Depth of water at buoy or structure (if marine site). All depths are indicated in feet and measured from mean low water.

(7g) DELETED, do not use this column.

(7h) Height of light or daymark above water. Height is measured from mean high water. The height of a light on a buoy is measured from the water line.

(7i) Include details on structures (type, height above ground if applicable).

(7j) Used for the following specific information, plus any other useful details:

- i. Buoys - size, shape color, and light reflective material used.
- ii. Structures - daymark shape, color and size.
- iii. Fog signal on a buoy or structure - type and model, audible range, and characteristics (number of strokes or blasts per minute and blast length).
- iv. Positioning method used - (GPS, LORAN, bearing and distance from surveyed land mark, indicated on NOAA navigation chart).

(6) This form may be used to cover more than one aid in the same geographic area. Attach sheet if additional space is required.

(7) After receipt of the approved form the applicant will advise the 13th Coast Guard District, Aids to Navigation Branch, Seattle, WA., PATON Manager, by any rapid means of communication (phone, fax, e-mail) when the work authorized is actually established.

(8) If the aid(s) have not been installed within six months of the application approval date, the approved application is automatically canceled.

(9) Any discrepancy in the operation of the aid(s) at any time shall be reported to the 13th Coast Guard District, Aids to Navigation Branch, Seattle, WA., PATON Manager by any rapid means of communication (phone, fax, e-mail). The discrepancy will be published in the Notice to Mariners. A discrepancy exists whenever the aid is not as described in the approved application (lack of signal, incorrect light characteristics, or improper color, shape or position of shore structure or buoy). The correction of the discrepancy will also be reported by the same method.

(10) All classes of Private Aids to Navigation shall be maintained in proper condition. They are subject to inspection by the Coast Guard at any time and without prior notice to the maintainer or owner.

(11) Do not fill in the Light List number or the aid name. The Coast Guard will assign names and Light List numbers in accordance with established rules and regulations.

(12) If you need to make changes to an approved application or need to discontinue a PATON, please call the 13th Coast Guard District, Aids to Navigation Branch, Seattle, WA., PATON Manager at (206) 220-7285. Remember to reference your approved PATON application for the proper name, serial number, class of the aid and Light List number if applicable.

You can find a PATON application form CG-2554 at
<http://www.uscgboating.org/safety/aton/aids.htm>
or you can request a paper copy by calling the
Boating Safety Information line at
(800) 368-5674.

SOURCES OF EQUIPMENT FOR PRIVATE AIDS TO NAVIGATION

Check the U. S. Coast: Guard requirements before buying aids to navigation equipment.

33CFR 66.01-10 Characteristics

- (a) The characteristics of a private aid to navigation must conform to those prescribed by the United States Aids to Navigation System set forth in subpart B of part 62 of this subchapter.
- (b) For RACONs: Manufacturer and model number or RACON, height above the water of desired installation, and requested coding characteristics. Equipment must have FCC authorization.
- (c) Owners of previously authorized, but non-conforming private aids to navigation must bring such aids to navigation into conformance with the U.S. Aids to Navigation System not later than December 31, 1994.

LANTERNS AND FLASHERS

Ability One, Inc.
PO Box 578
Germantown, WI. 53022
1-888-269-2869
1-262-251-7840
www.rolyanbuoys.com
(Lanterns and flashers for Rolyan buoys, marking lights.)

Flash Technology Corporation of America
PO Box 681509
Franklin, TN. 37068
1-615-261-2000
www.flashtechology.com
(Electro flash beacons, lanterns and flashers for their equipment and obstruction lights.)

Curd Enterprises, Inc.
476 Long Point Road
Mt. Pleasant, SC. 29464
1-800-968-3091
www.curdbuoy.com/curd/home
(Lanterns and flashers, buoys, floats and hardware.)

LANTERNS AND FLASHERS (cont.)

Julian A. McDermott Corp.

1639 Stephen Street

Ridgewood, NY. 11385

1-800-842-5708

1-718-456-3606

www.mcdermottlight.com

(Lanterns of all types, flashers, barge navigation lights.)

Automatic Power, Inc.

PO Box 230738

Houston, TX 77223

1-713-228-5208

www.automaticpower.com

(Lanterns and lamp changers, commercial, battery or solar powered, 6-12 volt DC, 12 volt AC, in both solid state and mechanical configurations. Lights for navigation aids, bridges, ranges and barge lights.)

Tideland Signal Corporation

PO Box 52370, O.C.S.

Lafayette, LA. 70505

1-800-824-0575

1-337-269-9113

www.tidelandsignal.com

(Lanterns, special purpose and bridge lights, flashers, lamp changers, and lamps, channel markers.)

Federal Signal Corp.

2645 Federal Signal Drive

University Park, IL. 60466

1-708-534-3400

www.federalsignal.com

(Lanterns and pier lights.)

Premier Materials Technology, Inc.

7401 Central Avenue NE

Minneapolis, MN. 55432

1-800-262-2275

www.premierfloats.com

(Solar lighting systems.)

LANTERNS AND FLASHERS (cont.)

Beacon Industries, Inc.
3131 South Lawrence Street
Tacoma, WA. 98409-4823
1-253-272-7860

(Lanterns and lamp changers, commercial, battery or solar powered, 6-12 volt DC, 12 volt AC, in both solid state and mechanical configurations. Lights for navigation aids, bridges, ranges and barge lights.)

Sola Communications, Inc.
PO Box 999
Larose, LA. 70373
1-800-321-8874
1-985-693-0678
www.solacomm.com
(Flashers and lamp changers.)

Watermark Navigation Systems
29 Gilford East Drive
Gilford, NH 03249
1-888-628-2869
www.navbuoy.com
(Buoy lights.)

FOG SIGNALS

Automatic Power, Inc.
PO Box 230738
Houston, TX 77223
1-713-228-5208
www.automaticpower.com
(For commercial and battery powered operation.)

Tideland Signal Corporation
PO Box 52370, O.C.S.
Lafayette, LA. 70505
1-800-824-0575
1-337-269-9113
www.tidelandsignal.com
(Foghorns and other sound signals.)

FOG SIGNALS (cont.)

Beacon Industries, Inc.
3131 South Lawrence Street
Tacoma, WA. 98409-4823
1-253-272-7860
(For commercial and battery powered operation.)

BUOYS

Automatic Power, Inc.
PO Box 230738
Houston, TX 77223
1-713-228-5208
www.automaticpower.com
(Lighted and unlighted buoys, mooring buoys, steel and plastic models.)

Watermark Navigation Systems
29 Gilford East Drive
Gilford, NH 03249
1-888-628-2869
www.navbuoy.com
(Lighted and unlighted buoys.)

Urethane Technologies, Inc.
30150 Eden Church Road
Denham Springs, LA. 70726
1-225-664-9936
www.utibuoy.com
(Lighted and unlighted buoys.)

Tideland Signal Corporation
PO Box 52370, O.C.S.
Lafayette, LA. 70505
1-800-824-0575
1-337-269-9113
www.tidelandsignal.com
(Ocean-type lighted buoys, lighted channel buoys, lighted navigation buoys, plastic marker buoys.)

BUOYS (cont.)

Beacon Industries, Inc.
3131 South Lawrence Street
Tacoma, WA. 98409-4823
1-253-272-7860
(Lighted and unlighted buoys, mooring buoys, steel and plastic models.)

Curd Enterprises, Inc.
476 Long Point Road
Mt. Pleasant, SC. 29464
1-800-968-3091
www.curdbuoy.com/curd/home
(Lighted and unlighted buoys.)

Ability One, Inc.
PO Box 578
Germantown, WI. 53022
1-888-269-2869
1-262-251-7840
www.rolyanbuoys.com
(Lanterns and flashers for Rolyan buoys, marking lights.)

Polyform U.S. Ltd.
7030 South 224th
Kent, WA. 98032
1-800-423-0664
www.polyformus.com
(Buoys of all types.)

Pacific Industrial Supplies, Marine Division
1220 West Nickerson Street
Seattle, WA. 98119
1-800-275-7472
1-206-224-9058
www.pacificindustrial.com
(Buoys and moorings.)

Topper Industries, Inc.
PO Box 2439
Battle Ground, WA. 98604
1-800-332-3625
1-360-687-1232
www.topperfloats.com
(Lighted and unlighted buoys.)

BUOYS (cont.)

Julian A. McDermott Corp.
1639 Stephen Street
Ridgewood, NY. 11385
1-800-842-5708
1-718-456-3606
www.mcdermottlight.com
(Lighted and unlighted buoys.)

Gilman Corporation
PO Box 68
Gilman, CT. 06336
1-800-622-3626
www.gilmancorp.com
(All types of buoys and fenders.)

BATTERIES

Saft America, Inc.
Commerce Center
2155 Paseo De Las Americas #31
San Diego, CA. 92154
1-619-661-5070
www.saftbatteries.com
(Wet primary batteries, nickel-cadmium rechargeable and lead acid type.)

Beacon Industries, Inc.
3131 South Lawrence Street
Tacoma, WA. 98409-4823
1-253-272-7860
(Wet and gel-cell batteries, primary and secondary, rechargeable and solar compatible batteries.)

Automatic Power, Inc.
PO Box 230738
Houston, TX 77223
1-713-228-5208
www.automaticpower.com
(Wet primary batteries, gel-cell and rechargeable types.)

BATTERIES (cont.)

Tideland Signal Corporation
PO Box 52370, O.C.S.
Lafayette, LA. 70505
1-800-824-0575
1-337-269-9113

www.tidelandsignal.com

(Wet primary batteries, gel-cell and rechargeable types.)

GNB Batteries, Inc.
829 Parkview Boulevard
Lombard, IL. 60148
1-630-629-5200

www.gnb.com

(Solar compatible batteries.)

Topper Industries, Inc.
PO Box 2439
Battle Ground, WA. 98604
1-800-332-3625
1-360-687-1232

www.topperfloats.com

(Batteries for buoys.)

Sola Communications, Inc.
PO Box 999
Larose, LA. 70373
1-800-321-8874
1-985-693-0678

www.solacomm.com

(Primary and secondary batteries.)

SOLAR EQUIPMENT

Beacon Industries, Inc.
3131 South Lawrence Street
Tacoma, WA. 98409-4823
1-253-272-7860

(Solar systems including lights, panels, and batteries.)

SOLAR EQUIPMENT (cont.)

Automatic Power, Inc.
PO Box 230738
Houston, TX 77223
1-713-228-5208
www.automaticpower.com
(Solar cells and panels.)

Tideland Signal Corporation
PO Box 52370, O.C.S.
Lafayette, LA. 70505
1-800-824-0575
1-337-269-9113
www.tidelandsignal.com
(Solar cells and panels.)

GNB Batteries, Inc.
829 Parkview Boulevard
Lombard, IL. 60148
1-630-629-5200
www.gnb.com
(Solar cells and panels.)

Julian A. McDermott Corp.
1639 Stephen Street
Ridgewood, NY. 11385
1-800-842-5708
1-718-456-3606
www.mcdermottlight.com
(Solar cells and panels.)

Topper Industries, Inc.
PO Box 2439
Battle Ground, WA. 98604
1-800-332-3625
1-360-687-1232
www.topperfloats.com
(Solar cells and panels.)

SOLAR EQUIPMENT (cont.)

Premier Materials Technology, Inc.
7401 Central Avenue NE
Minneapolis, MN. 55432
1-800-262-2275
www.premierfloats.com
(Solar lighting systems.)

Sola Communications, Inc.
PO Box 999
Larose, LA. 70373
1-800-321-8874
1-985-693-0678
www.solacomm.com
(Solar cells and panels.)

LIGHT REFLECTIVE PRODUCTS

3M Company, United States
(Call or visit their website to inquire about sales.)
1-888-364-3577
www.3m.com
(Buoy and dayboard marking kits, numbers, letters, sheets and rolls of light reflective tape.)

Avery Products
50 Pointe Drive
Brea, CA. 92821
1-800-462-8379
www.avery.com
(Heat activated fluorescent film and tape. Pressure sensitive tape.)

Ability One, Inc.
PO Box 578
Germantown, WI. 53022
1-888-269-2869
1-262-251-7840
www.rolyanbuoys.com
(Lanterns and flashers for Rolyan buoys, marking lights.)

LIGHT REFLECTIVE PRODUCTS (cont.)

Beacon Industries, Inc.
3131 South Lawrence Street
Tacoma, WA. 98409-4823
1-253-272-7860
(Light reflective tape for buoys and daybeacons.)

Curd Enterprises, Inc.
476 Long Point Road
Mt. Pleasant, SC. 29464
1-800-968-3091
www.curdbuoy.com/curd/home
(Light reflective tape, numbers and letters.)

DAYBEACONS

Interstate Highway Sign Company
(mailing) PO Box 2380
(street) 6005 Scott-Hamilton Drive
Little Rock, AR. 72203
1-501-565-8484
(Daymarks and regulatory signs.)

Automatic Power, Inc.
PO Box 230738
Houston, TX 77223
1-713-228-5208
www.automaticpower.com
(Daymarks and regulatory signs.)

Watermark Navigation Systems
29 Gilford East Drive
Gilford, NH 03249
1-888-628-2869
www.navbuoy.com
(Daymarks, regulatory signs.)

RACONS

Tideland Signal Corporation
PO Box 52370, O.C.S.
Lafayette, LA. 70505
1-800-824-0575
1-337-269-9113
www.tidelandsignal.com
(Radar beacons.)

Sola Communications, Inc.
PO Box 999
Larose, LA. 70373
1-800-321-8874
1-985-693-0678
www.solacomm.com
(Radar beacons.)

SERVICES

Underwater Atmospheric Systems, Inc.
14210 80th Street East
Puyallup, WA. 98372
1-206-848-4046
(Install, service, and repair private aids to navigation.)

13TH COAST GUARD DISTRICT OFFICE AIDS TO NAVIGATION

- Mailing address.

Commander (oan)
13th Coast Guard District
915 Second Avenue, Room 3510
Seattle, WA 98174-1067
Attn.: PATON Manager

- Phone and fax numbers.

1-206-220-7285
1-206-220-7265 (FAX)

- Private Aids to Navigation information on the internet.

www.uscg.mil/d13/oan/paton/

- Send E-mail to:

D13paton@pacnorwest.uscg.mil